

What is claimed is:

1. A method of using a fluid composition to form a coating of a desired thickness on a surface of a workpiece, comprising the steps of:
 - 5 (a) positioning the workpiece inside a coating enclosure;
 - (b) operatively coupling an exteriorly positioned pressure sensor to the interior of the coating enclosure via a pressure communicative conduit such that a pressure signal generated by the pressure sensor is indicative of the pressure inside the coating enclosure;
 - 10 (c) adjusting a process coating parameter to a setting corresponding to the desired coating thickness, wherein the setting is determined from information comprising the generated pressure signal; and
 - (d) coating the fluid composition onto the workpiece surface, wherein at least a portion of the coating step occurs while the process coating parameter is at said setting.
- 15 2. The method of claim 1, wherein at least a portion of step (d) occurs while the workpiece is being rotated.
- 20 3. The method of claim 2, wherein the process coating parameter is selected from the group consisting of fluid composition temperature, spin speed of the workpiece, workpiece temperature, coating enclosure temperature, intra-station delay, acceleration of the workpiece, spin duration and combinations thereof.
- 25 4. The method of claim 3, wherein the process coating parameter is the spin speed of the workpiece.
- 30 5. The method of claim 1, wherein the generated pressure signal is indicative of the barometric pressure inside the coating enclosure.

6. The method of claim 1, wherein the pressure communicative conduit comprises a first end having an inlet positioned inside the coating enclosure and a second end operatively coupled to the exteriorly positioned pressure sensor.
- 5 7. The method of claim 6, wherein the first end of the pressure communicative conduit comprises an elbow to inhibit egress of the fluid composition into the pressure communicative conduit.
8. A system for using a fluid composition to form a coating of a desired thickness on a surface of a workpiece, comprising:
- 10 (a) a processing chamber;
- (b) a coating enclosure inside the processing chamber, wherein the workpiece is supported inside the coating enclosure during coating operations;
- 15 (c) a pressure sensor positioned outside the coating enclosure;
- (d) a pressure communicative conduit operatively coupling the pressure sensor to the interior of the coating enclosure such that a pressure signal generated by the pressure sensor is indicative of the pressure inside the coating enclosure;
- 20 (e) a control system operatively coupled to the pressure sensor and adapted to control at least one coating thickness parameter via an output control signal, wherein the control system comprises componentry enabling the control system to derive the output control signal from information comprising the generated pressure signal.
- 25 9. The system of claim 8, further comprising a support surface positioned inside the coating enclosure on which the workpiece is rotatably supported.
10. The system of claim 9, wherein the at least one coating thickness parameter is selected from the group consisting of fluid composition temperature,
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spin speed of the workpiece, workpiece temperature, coating enclosure temperature, intra-station delay, acceleration of the workpiece, spin duration and combinations thereof.

5 11. The system of claim 10, wherein the at least one coating thickness parameter comprises spin speed.

10 12. The system of claim 8, wherein the pressure communicative conduit comprises a first end having an inlet positioned inside the coating enclosure and a second end operatively coupled to the pressure sensor.

15 13. The system of claim 8, wherein the first end of the pressure communicative conduit comprises an elbow to inhibit egress of the fluid composition into the pressure communicative conduit.

20 14. The system of claim 8, wherein the information used to derive the output signal further comprises a correlation between a coating thickness and the generated pressure signal.